

Work Order ID 114794

March-12-14 1:36:00 PM

114794

Page 1

Item ID: 647.1611

Revision ID:

Item Name: Wiper Deflector, Aft

Start Date: 3/12/14

Start Qty: 6.00

6

Required Date: 3/26/14

Req'd Qty: 6.00

6

Reference:

Approvals:

Process Plan: MLS

Date: 14-03-12

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

N900040100

Cust Item ID:

Customer:

Setup Start

NS1

Stop

NS2

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

647.1600

A

100

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blanks at 6.00"

0.00

0.00

6

Ø

M4

14/06/04

110

110

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB287

DWG REV: A

FOLIO REV: AA

2- deburr and break all sharp edges

0.00

0.00

B.A 14/06/05

6

Ø

DAS
08
9-85

Work Order ID 114794

March-12-14 1:36:00 PM

114794

Page 2

Item ID: 647.1611 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Wiper Deflector, Aft
 Start Date: 3/12/14 Start Qty: 6.00 *6* Cust Item ID:
 Required Date: 3/26/14 Req'd Qty: 6.00 *6* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.00		B. A 14/06/05		6	0		DAS 08 9-89
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00							DAS 37 9-89 14.06.05
140 *140* Outsource4 Outsource process - Anodize	Outsource process-Anodize per QSI017 4.1.10.1 Memo Issue P/O to ATG : 24495 1- Black Anodize as per Dwg 647.1600 2- PRIME AS PER DWG, SEE NOTE #2 Certification of Conformity is required	0.00 0.00							CX 14/06/06 (6)

Work Order ID 114794

March-12-14 1:36:00 PM

114794

Page 3

Item ID: 647.1611

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Wiper Deflector, Aft

Start Date: 3/12/14 Start Qty: 6.00

6

Cust Item ID:

Required Date: 3/26/14 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150 Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Memo

0.00

Packaging

155 QC5- Inspect part completeness to step on W/O

0.00

155

QC

Memo

0.00

Quality Control

180 Identify as per dwg & Stock Location: CA

0.00

180

Packaging

Memo

0.00

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

OK SP14-6-10.

6

14/6/11

6

DAS
32
9-89

Work Order ID 114794

March-12-14 1:36:00 PM

114794

Page 4

Item ID: 647.1611

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Wiper Deflector, Aft

Start Date: 3/12/14 Start Qty: 6.00

6

Cust Item ID:

Required Date: 3/26/14 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLJ 14-06-11

W. 1140611

Picklist Print

March-12-14 1:36:04 PM

Page 1

Work Order ID: 114794

114794

Parent Item: 647.1611

647 1611

Parent Item Name: Wiper Deflector, Aft

Start Date: 3/12/14

Required Date: 3/26/14

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV A NEW ISSUE VERIFIED BY DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.1611E		Manufactured	No				f	132.0000		4			

647 1611F

Wiper Deflector

Location

Loc Qty

Loc Code

MAT034

132

91744

132

3.2

MM

14/06/04

DART AEROSPACE LTD	Work Order: 114794
Description: Wiper Deflector, Aft	Part Number: 647.1611
Inspection Dwg: 647.1600 Rev: A	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.32	+/- .010	0.322	✓		Mic	6A-03
5.77	+/- .010	5.766	✓		H-6	31006
2.42	+/- .010	2.418	✓		"	"
0.36	+/- .010	0.368	✓		"	"
1.56	+/- .010	1.551	✓		"	"
0.404	+/- .005	0.403	✓		"	"
3.967	+/- .002	3.967	✓		"	"
φ.433 ±.146	+ .005 / +/- .005	φ0.434 ±.146	✓		Vern	6A-01
φ0.217	+ .005 / - .001	φ0.218	✓		"	"
0.365	+/- .005	0.368	✓		"	"
1.385	+/- .002	1.3855	✓		H-6	31006
2.16	+/- .010	2.162	✓		"	"
0.35	+/- .010	0.352	✓		Mic	6A-03
0.20	+/- .010	0.195	✓		Vern	6A-01
0.944	+/- .005	0.943	✓		H-6	31006
0.606	+/- .002	0.605	✓		"	"
0.381	+/- .002	0.382	✓		"	"
3.31	+/- .010	3.312	✓		"	"
0.713	+/- .002	0.713	✓		"	"
1.445	+/- .002	1.445	✓		"	"
0.54	+/- .010	0.531	✓		"	"
3.50	+/- .010	3.50	✓		---	---

Measured by: DAS 08 9-89	Audited by: 37 9-89	Preliminary Approval:
Date: 14/06/05	Date: 14.06.05	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04229			SHEET 1 OF 1	
	DWG NO. 647.1600	REV: A	PREPARED BY J. SOTO	DATE: 11/11/2013	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.
	DWG TITLE: WIPER DEFLECTOR ASSY				
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>David Barber</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED F/N 8			ECR: 13-032	

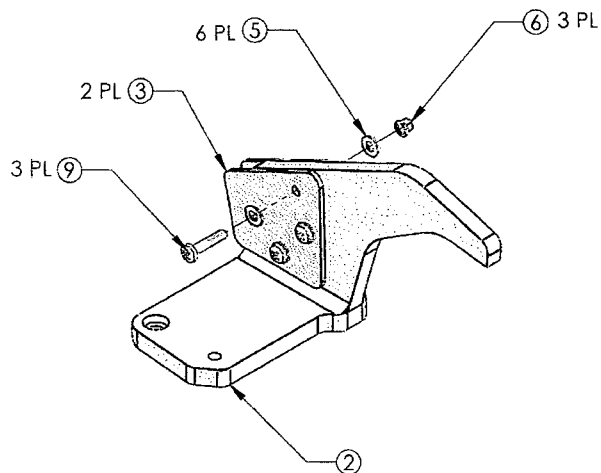
114794 MJS
1403-12

8	R	601.2207	8		NUTPLATE RIVET	CCR265SS3-3	
F/N	TC	PART NUMBER	.1602	.1601	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY				
DOCUMENTS EFFECTED:						CHANGE CATEGORY	
<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUCTIONS <input type="checkbox"/> ICA <input type="checkbox"/> FMS <input checked="" type="checkbox"/> BOM						<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	
						DER REVIEW REQUIRED	
						<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

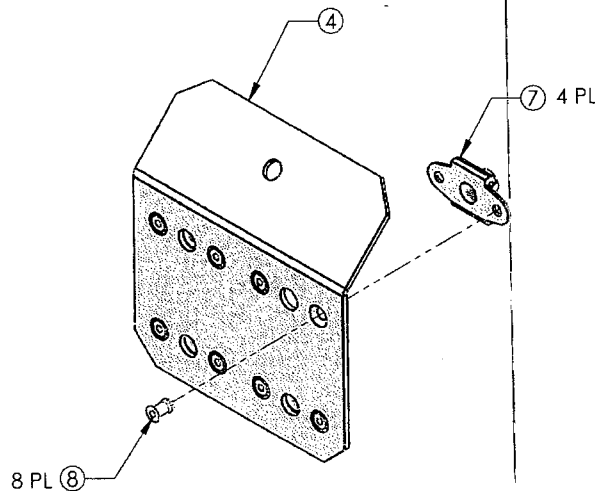
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NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-250/12
- 2 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 3 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
4. DEBURR AND BREAK ALL SHARP EDGES
5. IDENTIFY IAW MPP-120



647.1601 SHOWN EXPLODED



647.1602 SHOWN EXPLODED

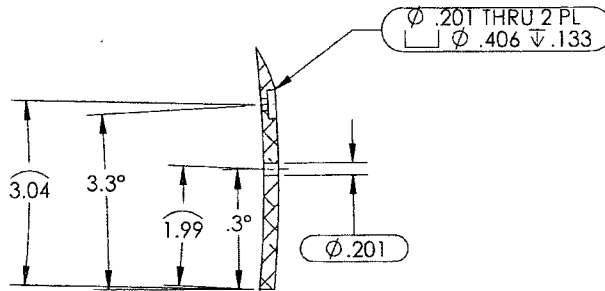
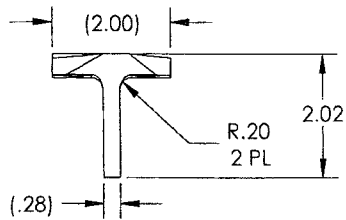
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION: FR1		H/C
N/C	INITIAL RELEASE	05/10/09	P. BRAVO
A.	INCORPORATED ECN 04043	08/09/13	P. BRAVO

UNINCORPORATED ECN(s)

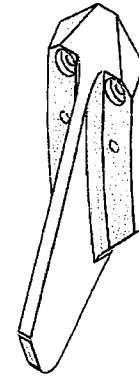
04229

	3	9	601.2989	SCREW	MS27639-0812	
8		8	601.2980	NUTPLATE RIVET	CCR26455-3-04	
4		7	601.1900	NUTPLATE	MS21059-3	
	3	6	601.2973	LOCKNUT	MS21042-03	
	6	5	601.2764	WASHER	MS1149FN32P	
1		4	647.1613	DOUBLER		1
	2	3	647.1612	SPLICE PLATE		2
	1	2	647.1611	WIPER DEFLECTOR, AFT		1
		1	647.1610	WIPER DEFLECTOR, FWD		1
X			647.1602	DOUBLER ASSY		
	X		647.1601	WIPER DEFLECTOR ASSY, AFT		
	1.1602	1.1601	FIND #	PART #	DESCRIPTION	MAT'L SPEC.
QTY				PARTS LIST		
NEXT ASSY (S)				APICAL INDUSTRIES		
647.1300				2608 TEMPLE HEIGHTS DR.		
				OCEANSIDE, CA. 92056-3512 (760)724-5300		
				WIPER DEFLECTOR ASSY		
				SEE CAGE CODE DWG. NO. 647.1600		
				SCALE NONE SHEET 1 OF 6		

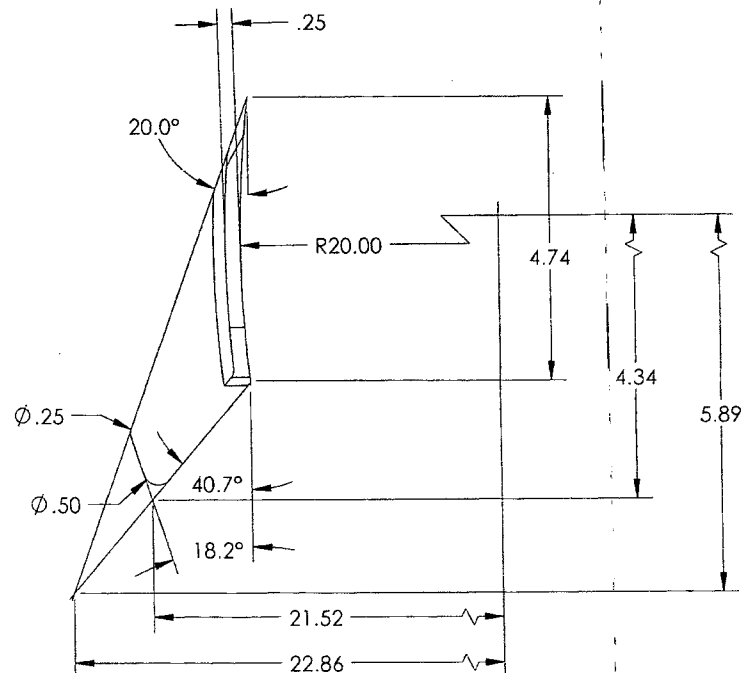
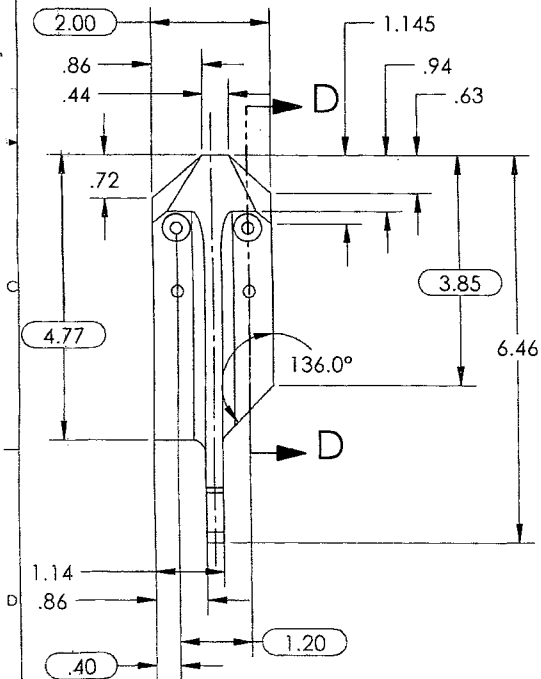
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SECTION D-D

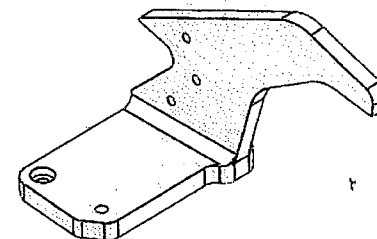
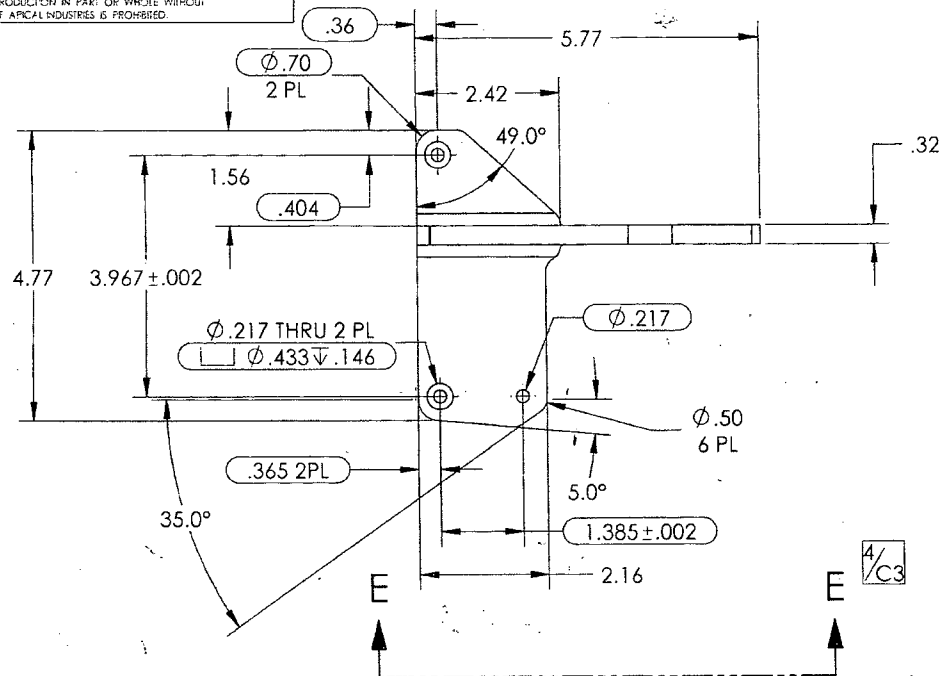


647.1610

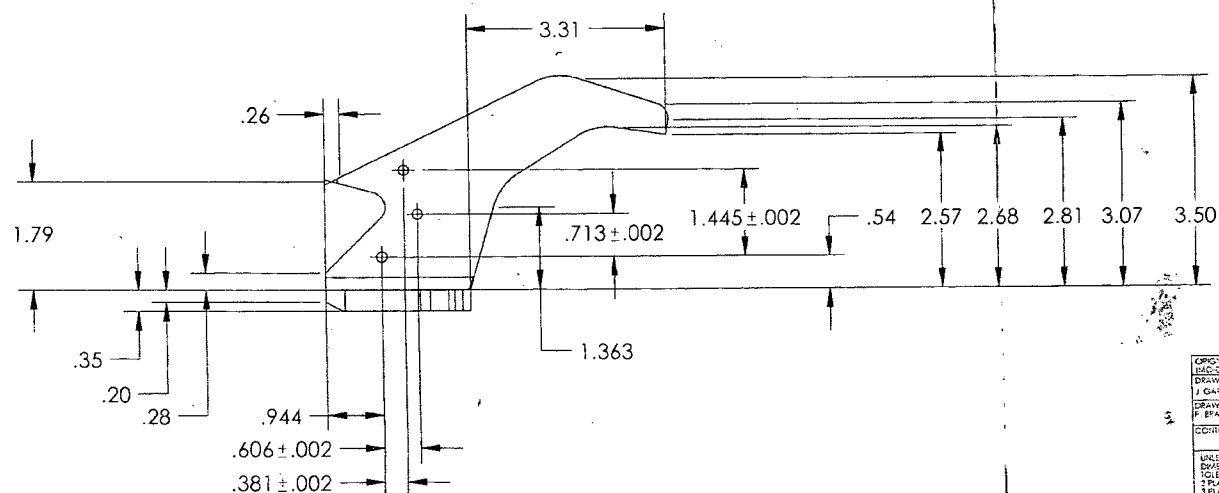


ORIGINAL DATE		APICAL INDUSTRIES	
INDUSTRY		2608 TEMPLE HEIGHTS DR.	
DRAWN BY		OCEANSIDE, CA. 92056-3512 (760)724-5300	
J. GARDNER		WIPER DEFLECTOR ASSY	
DRAWING APPROVAL		SHEET 2 OF 6	
P. BRAYO		SCALE: NONE	
CONTRACT NO.		SHEET 2 OF 6	
UNLESS OTHERWISE SPECIFIED		SHEET 2 OF 6	
DIMENSIONS ARE IN INCHES		SHEET 2 OF 6	
TOLERANCES ARE:		SHEET 2 OF 6	
2 PLACE DECIMALS ± .01		SHEET 2 OF 6	
3 PLACE DECIMALS ± .005		SHEET 2 OF 6	
ANGLES ± .5°		SHEET 2 OF 6	

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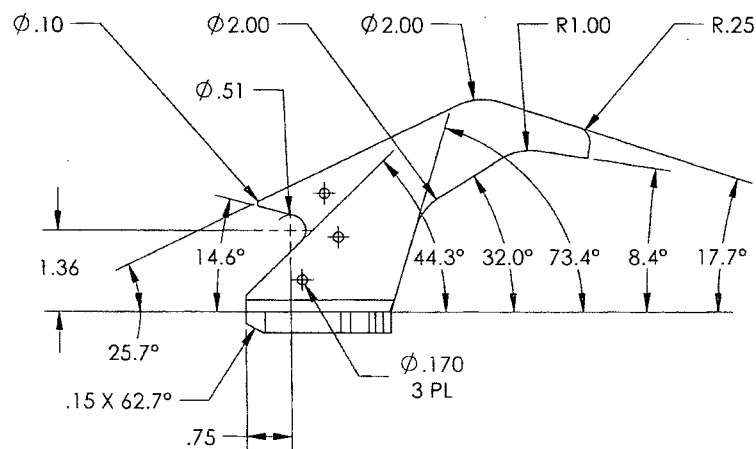


647.1611

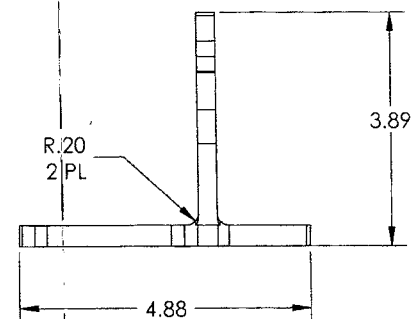


ORIGINAL DATE 10-01-2011 BY: JGD		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY J. GARDNER	CHECKED BY P. BRAYD	WIPER DEFLECTOR ASSY	
DRAWING APPROVAL P. BRAYD		SUB. CASE CODE B 07M16	DWG. NO. 647.1600
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DIMS MAX .010 2 PLACE DIMS MAX .005 ANGLES $\pm 5^\circ$		SCALE: NONE	REV. A SHEET 3 OF 6

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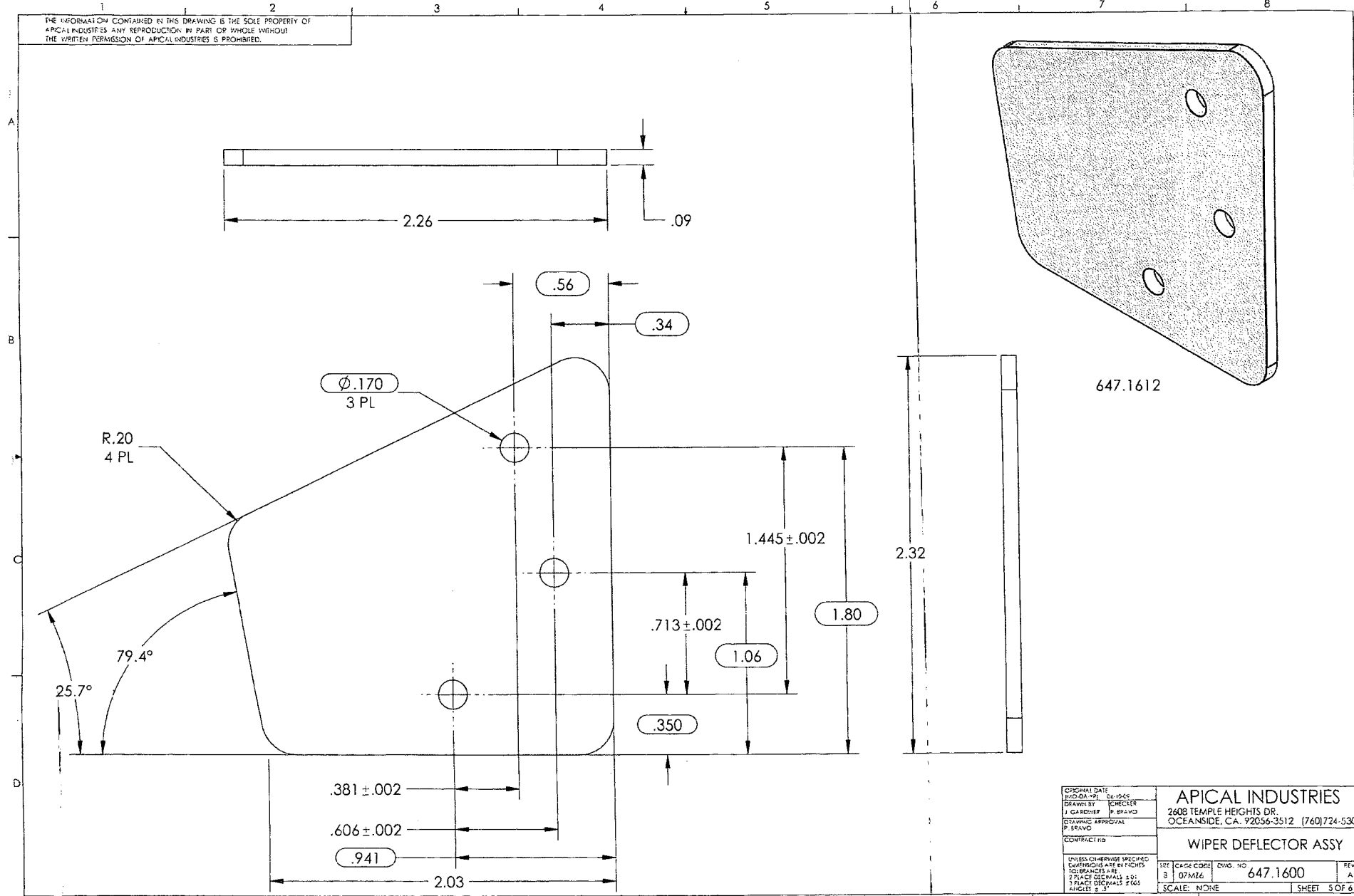


SECTION E-E 3/B4

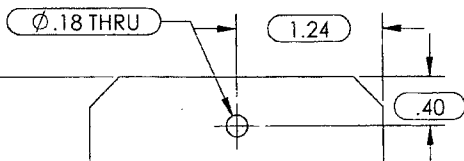


ORIGINAL DATE 11/02/01	DESIGNER J. GARDNER	CHECKER P. BRAVO	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEA NSIDE, CA. 92056-3512 (760)724-5300
DRAWING BY J. GARDNER	DRAWING APPROVAL P. BRAVO	CONTRACT NO.	WIPER DEFLECTOR ASSY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .5°	SHEET 8	CAGE CODE 074416	DWG NO. 647.1600
	SCALE: NONE		REV. A
			SHEET 4 OF 6

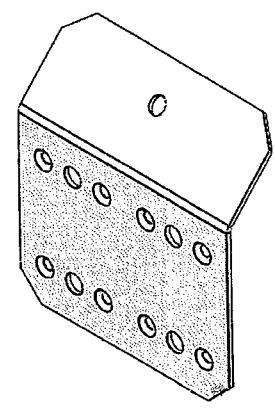
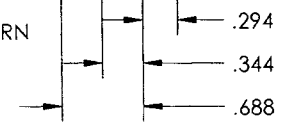
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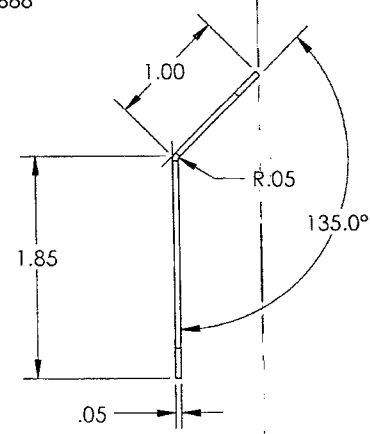
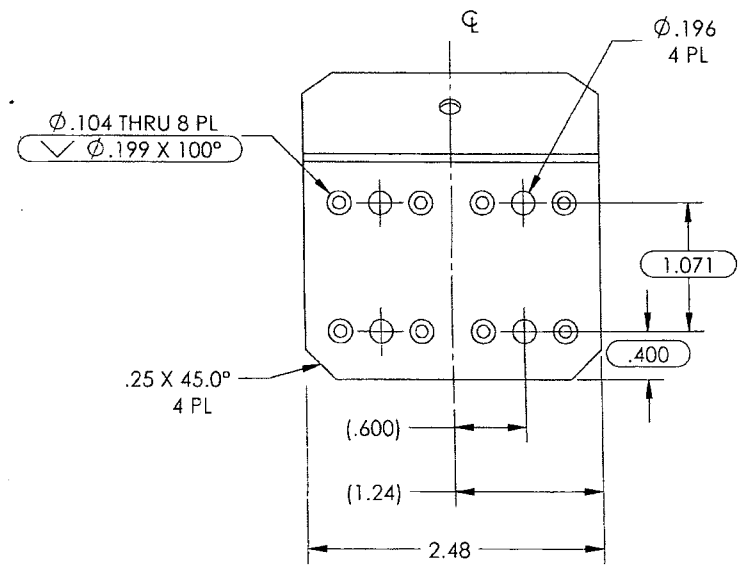
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FLAT PATTERN



647.1613



ORIGINAL DATE 10-01-00		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY J. GARDNER	CHECKED P. BRAVO	WIPER DEFLECTOR ASSY	
DRAWING APPROVAL P. BRAVO		SHEET NO. 8	REV. A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SCALE: NONE	SHEET 5 OF 6



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO24495

Purchase Order Date 6/6/2014

PO Print Date 6/10/2014

Page Number 1 of 2

Order From :

VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extend Pri
1	114794	647.1611 WIPER	6/10/2014 Yes 6/10/2014		6.00 ✓	\$10.70	\$64.
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N							
Line Total:							\$64.
2	120052	647.4115 SHIM	6/10/2014 Yes 6/10/2014		6.00	\$6.25	\$37.
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N							
Line Total:							\$37.
3	120051	647.4114 SHIM	6/10/2014 Yes 6/10/2014		6.00	\$6.40	\$38.
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N							

Note:

6/10/2014



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 63089

Date: 10-Jun-14

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms

Ship Via

Quantity

Description

1
lot

Part: ASST

Rev:

6 PCS 647.1611 (10.70) ✓

6 PCS 647.4115 (6.25)

6 PCS 647.4114 (6.40)

4 PCS 647.4212 (6.25)

HARD ANODIZE BLACK
MIL-A-8625 TYPE III CLASS 2

PRIME MIL-P-23377J TYPE I CLASS N

PRICE IS PER PIECE

Job: 20140353

PO: 24495

Line:

8814-6-10

Certificate of Conformance

A.T.G. Industries certifies that all items in this shipment are in conformance
with all requirements, specifications and drawings referenced in the purchase order.

ISO 9001 : 2008 REGISTERED
ATG SALES-2010 TERMS APPLY

DATE: 10/6/14

CERTIFIED SIGNATURE: 

RECEIVER SIGNATURE: _____